

#Using SQLITE to create a single table

```
import sqlite3
import os
```

```
# Function that prints out a table containing some records
# using SQL select command
```

```
def print_table(sql):
    db.execute(sql)
    all_rows = db.fetchall()
    for row in all_rows:
        for i in row:
            print(i, end=' | \t')
        print()
    print()
```

```
# Remove database if it exists; probably not a good idea
if os.path.isfile('database.db'):
    os.remove('database.db')
```

```
# Create database and open database
conn = sqlite3.connect('database.db')
db = conn.cursor()
```

```
# Create table
db.execute("""CREATE TABLE book
            (bookID INTEGER PRIMARY KEY,
             author TEXT,
             title TEXT,
             year INTEGER,
             publisher TEXT)""")
```

```
# Insert values using simple insertion
```

```
db.execute("INSERT INTO book VALUES (1,'JK Rowling',\
    'Harry Potter and the Order of the Phoenix',\
    2003,'Bloomsbury')");
```

```
# Insertion specifying the attribute names
```

```
db.execute("INSERT INTO book (bookID,author,title,year,publisher) \
    VALUES (2,'Michael Morpurgo','War Horse', 1982,'HarperCollins')");
```



```
# Auto adding the value for the primary key using NULL
db.execute("INSERT INTO book (bookID,author,title,year,publisher) \
VALUES (NULL,'Michael Morpurgo','Private Peaceful', \
2003,'HarperCollins')");
```

```
# Insertion using variables
author="Roald Dahl"
title="The BFG"
publisher="Penguin"
db.execute("INSERT INTO book (bookID,author,title,publisher) \
VALUES (NULL,?,?,?)" ,(author,title,publisher));
```

Things to experiment with:

What happens if you give the same value for the primary

key for more than one record?

Remove PRIMARY KEY from create tables, what happens now?

```
# updating records
db.execute("UPDATE book SET year=1982 WHERE author='Roald Dahl'")
# or
year=1982
db.execute("UPDATE book SET year=? WHERE author='Roald Dahl'",(year,))
#or
sql="UPDATE book SET year=1982 WHERE author='Roald Dahl'"
db.execute(sql)
```

```
# Deleting records
# db.execute("DELETE FROM book WHERE author='JK Rowling'")
```

```
# selecting data from a database
sql="SELECT * FROM book"
print_table(sql)
```

```
conn.commit()
```

```
conn.close()
```